Schena, Cristeen

From: Ann Williams <Williams.Ann@epamail.epa.gov>
Sent: Tuesday, July 12, 2016 12:21 PM
To: Williams, Ann
Subject: Fw: Salmon's return means much to tribe

----- Forwarded by Ann Williams/R1/USEPA/US on 07/12/2016 12:21 PM -----

From: Stephen Silva/R1/USEPA/US
To: Ralph Abele/R1/USEPA/US@EPA, Jennie Bridge/R1/USEPA/US@EPA, Beth Edwards/R1/USEPA/US@EPA, Mary Garren/R1/USEPA/US@EPA, Eric Perkins/R1/USEPA/US@EPA, Ellen Weitzler/R1/USEPA/US@EPA, Steven Winnett/R1/USEPA/US@EPA, Toby Stover/R1/USEPA/US@EPA, Andrea Traviglia/R1/USEPA/US@EPA, Matt Liebman/R1/USEPA/US@EPA, Stephen Silva/R1/USEPA/US@EPA,
Cc: Matt Schweisberg/R1/USEPA/US@EPA, Ronald Fein/R1/USEPA/US@EPA, Ann Williams/R1/USEPA/US@EPA
Date: 09/19/2011 09:40 AM
Subject: Fw: Salmon's return means much to tribe

Hi All,

Couple of good articles on successful cooperative efforts to restore salmon and other anadromous fish to the Penobscot River in Maine. An interesting point is the importance of restoring passage to other fish such as shad and alewives (who have a little tougher time getting up marginal fish ladders) along with the salmon so predators have other fish to pick off during migration.
thanks,
Steve

----- Forwarded by Stephen Silva/R1/USEPA/US on 09/19/2011 09:32 AM -----

From: Stephen Perkins/R1/USEPA/US
To: Michael Stover/R1/USEPA/US@EPA
Cc: Lois Adams/R1/USEPA/US@EPA, Stephen Silva/R1/USEPA/US@EPA
Date: 09/18/2011 06:01 PM
Subject: Salmon's return means much to tribe

---

mike
see below for 2 articles about the penobscot river and tribe
thanks
stephen

News Headline: Salmon's return means much to tribe |

Outlet Full Name: Portland Press Herald
News Text: Sept. 18--INDIAN ISLAND -- In 1835, when the new dam at Veazie was closed in the winter, blocking all fish passage, the Penobscot Indians protested that the dam would destroy the annual runs of salmon and other sea-run fish.

Their complaints went unheeded, even when thousands of shad and alewives the following spring lingered about the new dam and died there, filling the air with a powerful stench.

The sea-run fish that once journeyed up the Penobscot River by the millions to spawn have dwindled to the hundreds. It's been more than 25 years since the Penobscot Indian Nation formally harvested a salmon for a ceremony.

But tribal members are now looking forward to the day when they will harvest salmon once again, thanks to the 2004 multi-party settlement that will make way for the removal of two dams

downstream from Indian Island and improved fish passage on a third dam.

For the Penobscot Indians, the anticipated return of sea-run fish is more than just an important victory for an environmental cause. It will allow tribe members to embrace their cultural heritage, said John Banks, director of the Penobscot Nation Department of Natural Resources.

Standing on a bluff overlooking the river, he recounted the tribe's decades-long battle to improve fish passage in the river, first blocking the construction of a hydropower dam at Basin Mills and then serving as a key player in negotiations that led to the settlement.

The hard work is done, he said, and now the tribe can look to the future with hope.

"We are waiting for the fish to come back," he said.

The Penobscot Nation has about 2,200 members, approximately 400 of whom live on Indian Island, one of 200 reservation islands in the Penobscot watershed.

The Penobscot Nation is a federally recognized sovereign Indian tribe. The tribe's legal status was a crucial factor in the settlement agreement because it gave the tribe leverage during the federal license renewal process for the hydroelectric dams in the watershed.

Collaborating with environmental groups, including the Atlantic Salmon Federation, the tribe argued that the federal government is required to ensure proper management and protection of tribal natural resources, such as the right to harvest fish within the waters of their jurisdiction.

The tribe's arguments -- contested by then-dam owner PPL Corp. -- threatened the company's ability to continue winning licenses from the federal government to produce power on the river.

Banks gives credit to Scott Hall, who was operating the Maine dams for PPL Corp., for taking the initiative to seek a multiparty agreement for the entire Penobscot River basin.

In December 1999, Banks said, a critical meeting took place in a tribal administrative building, a log building on Indian Island. Attending were tribal leaders, government officials and representatives of PPL and several environmental groups.

That meeting opened the way for talks that concluded with the 2004 settlement.

Without the agreement, the issue would have been tied up in court for many years with no predictable outcome for either side, Banks said.

"Both sides wanted something more certain," he said. "We wanted certainty in the future ecological health of the river, and the company wanted some financial security to be able to maintain its generation business."

The Penobscot River Restoration Trust was formed to implement the project. Under an agreement, PPL agreed to sell the three dams to the trust for roughly $25 million. PPL, in return, was allowed to increase power generation at six other dams along the river, offsetting the losses incurred when the Veazie and Great Works dams are no longer in use.

PPL also agreed to install a state-of-the-art fish lift at the Milford Dam, which will become the first dam on the river upstream from the Gulf of Maine once the Veazie and Great Works dams are removed.

Banks said that traditional native beliefs about river ecology are now being supported by researchers involved in the river recovery project.

For instance, salmon are able to climb fish ladders much more successfully than other sea-run fish, such as shad and alewives. Assuring that all sea-run fish are able to swim upriver increases the

spawning success of Atlantic salmon, he said. When the river is filled with millions of other fish, he explained, juvenile salmon are less likely to be eaten by predators.

"We have always looked at the river as a living, breathing entity in its own right, and we have attempted to approach its recovery in a holistic way," he said.

MaineToday Media State House Staff Writer Tom Bell can be contacted at 791-6369 or at:

tbell@mainetoday.com
News Headline: Restoring the Penobscot |

Outlet Full Name: Portland Press Herald
News Text: Sept. 18--GREENBUSH -- Ian Kiraly gently nudges the bow of an alien-like vessel along the banks of the Penobscot River. The electro boat, with its cathode tentacles dangling in the water, delivers 600-800 volts of electric current, stunning any fish in the "shock zone," an 8-foot-deep 100-square-foot area.

Two of his assistants scoop up immobilized fish and drop them in a holding tank in the center of the boat. Kiraly tallies them -- chain pickerel, smallmouth bass, fallfish, white sucker, common shiner minnow -- before releasing them.

It's a typical catch here, 11 miles north of Orono and upstream of the three dams that stand between this part of the river and the ocean.

Since he began the study in the spring of 2010 as part of his graduate work at the University of Maine, Kiraly hasn't caught any shad, alewives, blueback herring or striped bass in this area.

That could change by the spring of 2014, after two of the dams are removed and a state-of-the-art fish lift is installed at the third.

"I'm really curious about what happens when the dams come out, for sure," he says.

So are a lot of other people.

The river restoration effort is among the most ambitious and complex ever attempted. And already, it's apparent that it could have an impact on rivers far from Maine.

MODEL FOR COOPERATION

The amount of scientific work now being done on Maine's largest river is unprecedented.

The research eventually will be used to evaluate dam removal options elsewhere, said Charlie Baeder, who is coordinating the research for the Penobscot River Restoration Trust.

No similar research was done before the removal of the Edwards Dam on the Kennebec River in 1999. As a result, he said, it's difficult to document the effect the dam's removal had on the environment.

In another respect, the restoration project is widely viewed as a model for how environmentalists, hydropower companies, native tribes, and state and federal agencies can benefit when they reach agreements that cover an entire river system, rather than fighting one another one dam at a time, said Jeff Opperman, a senior adviser on sustainable hydropower for The Nature Conservancy.

A groundbreaking agreement reached in 2004 allowed the Penobscot River Restoration Trust to buy three dams from the PPL Corp. and plan to remove two of them: Veazie and Great Works.

State fisheries managers are already taking steps in anticipation of the removals -- thousands of juvenile alewives have been released in ponds upstream from the dams.

The alewives will swim downstream through existing passages in the dams and spend the next few years in the ocean. In five years, when the females make the more difficult trip up the Penobscot River to spawn, the dams will be gone.

Yet, while the public focus is on dam removal, the project is also an example of how to properly build new hydroelectric dams, Opperman said.

Developing nations around the world are aggressively building dams to produce energy for their growing populations, and environmental groups have little power stop them, Opperman said. The Penobscot restoration project shows that it's possible to build dams and preserve sea-run fish access to rivers.

When he works abroad in Mexico, Colombia and Costa Rica, Opperman often points to the Penobscot River as an example of both failure and success.

HUGE DECLINES IN SEA-RUN FISH

When the river's dams were built in the 1800s, Opperman said, the builders never thought about balancing energy production and habitat by taking a view of the entire river basin. As a result, the river has experienced massive declines in populations of sea-run fish such as salmon.

In the early 1800s, about 100,000 salmon, 6 million alewives and 2 million shad annually swam from the sea into the Penobscot to spawn, according to state estimates.

So far this year, just over 3,000 salmon have returned. Spawning shad and alewives number fewer than 1,000 each.

Now, Maine is getting a second chance to do it right, Opperman said.

The Great Works Dam in Old Town will be removed next year, and the Veazie Dam, upstream of Bangor, will be removed in 2013.

In exchange, federal regulators will allow six other dams in the Penobscot watershed to increase power generation, thus maintaining hydropower production at about current levels.

Three of the dams are on river channels outside the Penobscot's main stem. Two dams will get significantly improved fish passages: an elevator to lift fish over the Milford Dam and a fish bypass at the Howland Dam. The West Enfield Dam has a modern ladder.

The project will improve access to nearly 1,000 miles of historic river habitat for endangered Atlantic salmon and other species of native sea-run fish, such as alewives and shad.

"The lesson here is that there was more than one way to get a certain energy objective," Opperman said. "The first way results in a dramatic loss of migratory fish habitat. The second way has much less impact on fish."

For the former owner of the hydroelectric dams, PPL Corp., the agreement put an end to legal battles with environmental groups and the Penobscot Nation over whether federal regulators should continue licensing the dams.

In 2009, Blackbear Hydro Partners LLC purchased those PPL dams in the Penobscot watershed that hadn't been sold to the Penobscot River Restoration Trust.

Scott Hall, a former PPL official and now an executive with Blackbear Hydro Partners, said the deal gave the dam owners certainty over future federal regulation and allowed them to make investments.

"From our standpoint, the agreement provides the best of both worlds -- clean and renewable hydro energy and restored runs of fish," he said.

DOCUMENTING CONDITIONS

On the river, Kiraly's electric fishing project is part of an effort to document today's conditions and enable scientists to determine how the river changes once the dams are removed, including the movement and composition of fish populations, the shape and geological character of the river, water quality, marine nutrients and wetlands.

About $1.3 million is being spent on the largest study ever done in the United States of a river basin before dams are removed, said Baeder, with the Penobscot River Restoration Trust.

Already, the research is paying off.

Few believed that many sturgeon lived in the Penobscot, but researchers who have been tagging the fish since 2006 have found that about 600 live below the first dam, in Veazie.

In winter, the endangered fish gather in a large group downstream from the Bangor Waste Water Treatment Plant.

The prehistoric-looking sturgeon are covered with bony plates and grow to more than 3 feet long. Researchers have found that the fish travel to the ocean to reach other rivers, particularly the Kennebec River, said Matthew Altenritter, who is studying the species for his doctoral thesis at the University of Maine.

He said it appears that sturgeon prefer to spawn in the Kennebec River, perhaps because they can swim farther upstream to where the water is less influenced by tides and less salty.

The dam removals and fish passage improvements will allow sturgeon to migrate farther upstream in the Penobscot, said Kevin Lachapelle, a graduate student at the University of Maine who is working on the sturgeon study.

"We hope it will restore the spawning habitat," he said.

MaineToday Media State House Writer Tom Bell can be contacted at 791-6369 or at:

tbell@mainetoday.com